



NLM's Online Playground: K-12 Health & Science Information Resources for Teachers & Students

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Introduction

Medicine/Health

**Environmental
Health**

Genomics/Genetics

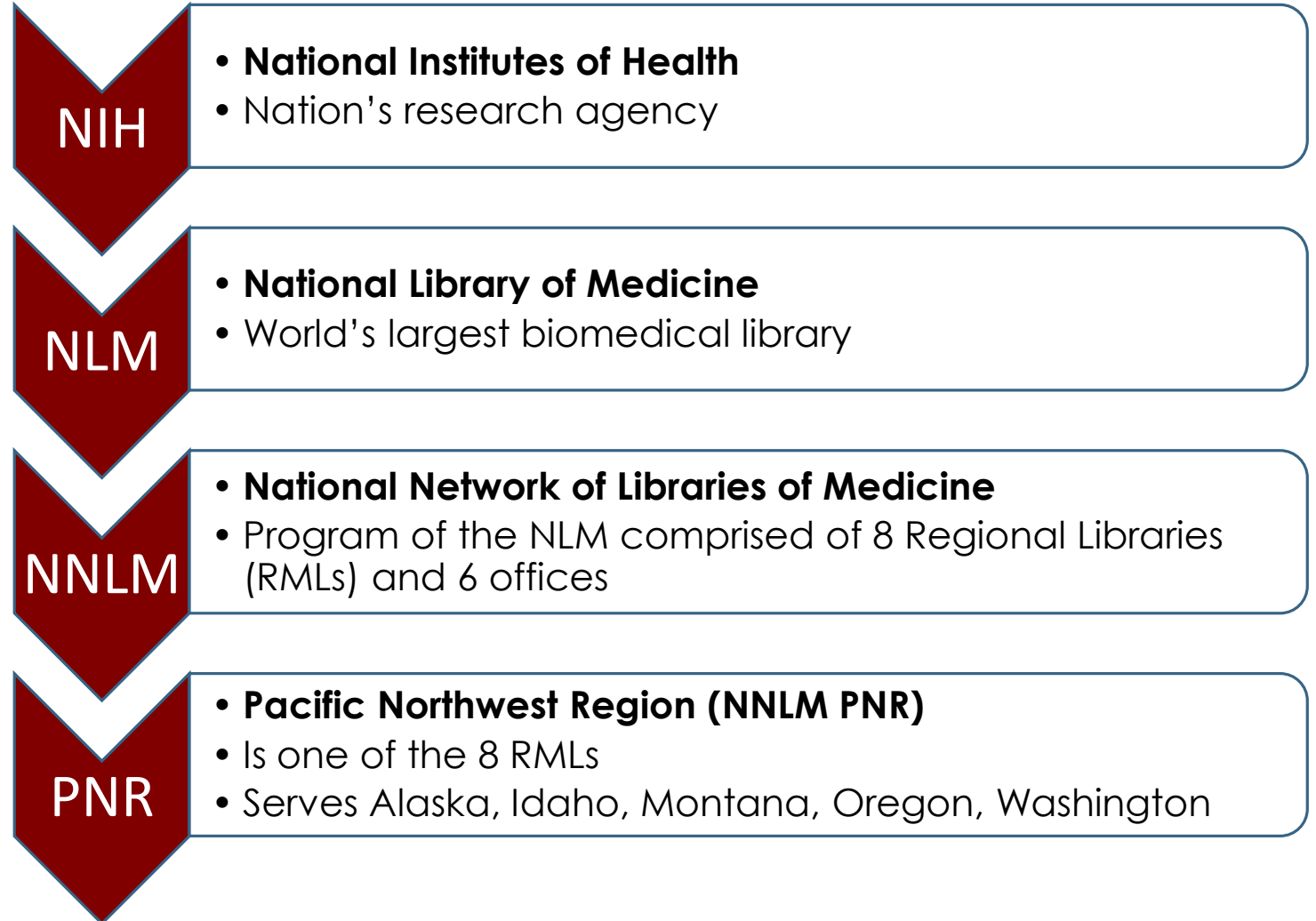
Interdisciplinary

Career Information

Who We Are

NIH
NLM
NNLM
NNLM PNR

What's the difference?



NNLM + NNLM PNR



The mission of NNLM is to advance the progress of medicine and improve the public health by:

- Providing all U.S. health professionals with equal access to biomedical information
- Improving the public's access to information to enable them to make informed decisions about their health

[NNLM](https://nnlm.gov/)

<https://nnlm.gov/>

U.S. Department of Health & Human Services www.hhs.gov

Outreach Activities & Resources

SPECIALIZED INFORMATION SERVICES

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[SIS Home](#) > [Outreach Activities & Resources](#) > [Students and Educators](#)

K-12 Science and Health Education

Working with teachers and scientific experts to provide FREE reliable resources to help introduce, reinforce, and supplement education programs.

Get the latest news!

Biology

Careers

Disasters

Environmental Health Science/Chemistry

Forensics and Medical Technology

Games

General Health

Genetics

Health Information Tutorials

HIV/AIDS

Lesson Plans

Projects

Spanish-Language Resources

PDF documents can be viewed with the free Adobe® Reader

Outreach Projects

- [Disaster Health](#)
- [Environmental Health](#)
- [Health Professionals](#)
- [HIV/AIDS](#)
- [Library Science](#)
- [Minority and Ethnic Populations](#)
- [Specific Populations](#)
- [Students/Educators](#)

Resource & Tools

- [Funding Opportunities](#)
- [Training Resources](#)
- [Promotional Materials](#)

About Us

- [Outreach & Special Populations Branch](#)
- [NLM Outreach Programs](#)
- [Specialized Information Services Division](#)
- [Staff Publications](#)

Announcements

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[NLM K-12 Resources](https://sis.nlm.nih.gov/outreach/k12.html)

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Medicine/Health



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[Health Topics](#) [Drugs & Supplements](#) [Videos & Tools](#)

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Health Topics

Find information on health, wellness, disorders and conditions



Drugs & Supplements

Learn about prescription drugs, over-the-counter medicines, herbs, and supplements



Videos & Tools

Discover tutorials, health and surgery videos, games, and quizzes



Medical Encyclopedia

Articles and images for diseases, symptoms, tests, treatments

Medical Dictionary from Merriam-Webster

Look up in Dictionary

GO

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1 2 3 4 II

Today's Health News

Smoking, Poor Diet Lead Global Death Causes

U.S. Cancer Death Rate Continues to Fall

Which Single Behavior Best Prevents High Blood Pressure?

[More health news](#)

Clinical Trials

Search [ClinicalTrials.gov](#) for drug and treatment studies.

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Health Topics

















Read about symptoms, causes, treatment and prevention for over 1000 diseases, illnesses, health conditions and wellness issues. MedlinePlus health topics are regularly reviewed, and links are updated daily.

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[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [XYZ](#) [List of All Topics](#)

Body Location/Systems

-  [Blood, Heart and Circulation](#)
-  [Bones, Joints and Muscles](#)
-  [Brain and Nerves](#)
-  [Digestive System](#)
-  [Ear, Nose and Throat](#)
-  [Endocrine System](#)
-  [Eyes and Vision](#)
-  [Immune System](#)
-  [Kidneys and Urinary System](#)
-  [Lungs and Breathing](#)
-  [Mouth and Teeth](#)
-  [Skin, Hair and Nails](#)
-  [Female Reproductive System](#)
-  [Male Reproductive System](#)

Disorders and Conditions

- [Cancers](#)
- [Diabetes Mellitus](#)
- [Genetics/Birth Defects](#)
- [Infections](#)
- [Injuries and Wounds](#)
- [Mental Health and Behavior](#)
- [Metabolic Problems](#)
- [Poisoning, Toxicology, Environmental Health](#)
- [Pregnancy and Reproduction](#)
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Diagnosis and Therapy

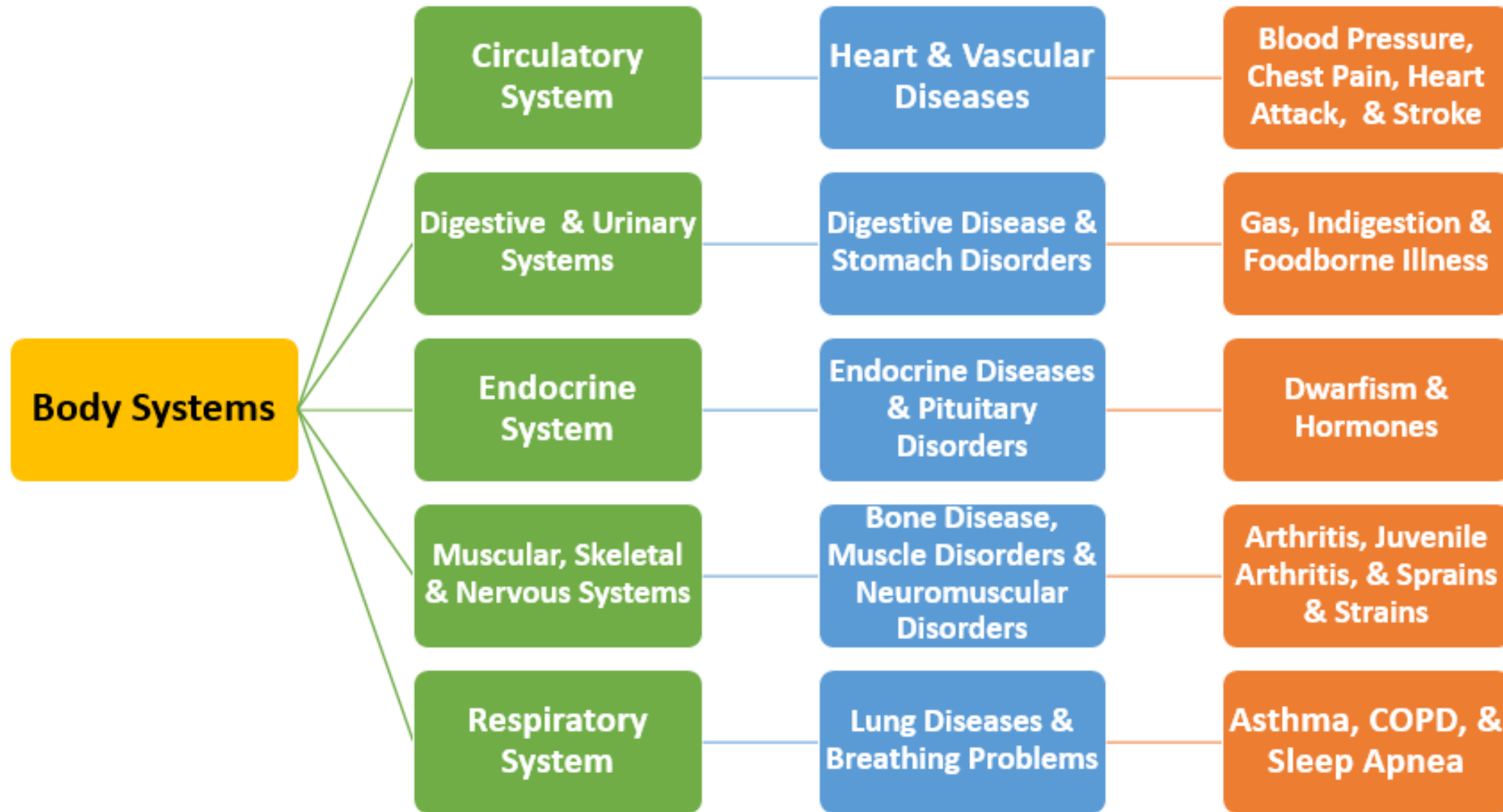
- [Complementary and Alternative Therapies](#)
- [Diagnostic Tests](#)
- [Drug Therapy](#)
- [Surgery and Rehabilitation](#)
- [Symptoms](#)
- [Transplantation and Donation](#)

Demographic Groups

- [Children and Teenagers](#)
- [Men](#)
- [Population Groups](#)
- [Seniors](#)
- [Women](#)

Health and Wellness

- [Disasters](#)
- [Fitness and Exercise](#)
- [Food and Nutrition](#)
- [Health System](#)
- [Personal Health Issues](#)
- [Safety Issues](#)
- [Sexual Health Issues](#)
- [Social/Family Issues](#)
- [Wellness and Lifestyle](#)



[Health Topics](#) [Drugs & Supplements](#) [Videos](#)[Home](#) → [Health Topics](#) → [Zika Virus](#)

Zika Virus

Also called: [Zika](#)

On this page

Basics

- [Summary](#)
- [Start Here](#)
- [Latest News](#)
- [Symptoms](#)
- [Diagnosis and Tests](#)
- [Prevention and Risk Factors](#)
- [Treatments and Therapies](#)

Learn More

- [Related Issues](#)
- [Specifics](#)

Research

- [Statistics and Research](#)
- [Clinical Trials](#)
- [Journal Articles](#)

Resources

- No links available

Summary

Zika is a virus that is spread mostly by mosquitoes. A pregnant woman can get the virus during pregnancy or around the time of birth. It can spread through blood transfusion. Reports that the virus has spread through blood transfusion in the United States, Africa, Southeast Asia, the Pacific Islands, and Central and South America.

Most people who get the virus do not get sick. One in five people who get the virus will have a fever, rash, joint pain, and conjunctivitis (pink eye) 2 to 7 days after being bitten by an infected mosquito.

that pregnant women do not travel to areas where there is a Zika virus outbreak. If you are pregnant, travel, first talk to your doctor. You should also be careful to prevent mosquito bites:

- Use insect repellent
- Wear clothes that cover your arms, legs, and feet
- Stay in places that have air conditioning or that use window and door screens

Centers for Disease Control and Prevention

Start Here

- [Zika Virus](#) (Centers for Disease Control and Prevention)
- [Zika Virus and Complications: Questions and Answers](#) (World Health Organization)
- [Zika Virus Fact Sheet](#) (World Health Organization)
Also in Spanish

Latest News

- [Zika Can Harm Babies' Vision, Too](#) (04/18/2017, HealthDay)
- [Epilepsy: Another Potential Zika Threat to Babies](#) (04/17/2017, HealthDay)
- [Another Type of Mosquito May Carry Zika](#) (04/14/2017, HealthDay)
- [More News on Zika Virus](#)

Symptoms

- [Symptoms of Zika](#) (Centers for Disease Control and Prevention)
Also in Spanish

Diagnosis and Tests

- [What Happens When I Am Tested for Zika and When Will I Get My Results?](#) (Centers for Disease Control and Prevention) - PDF

Prevention and Risk Factors

- [Help Control Mosquitoes that Spread Dengue, Chikungunya, and Zika Viruses](#) (Centers for Disease Control and Prevention) - PDF
Also in Spanish
- [Mosquito Bite Prevention For Travelers](#) (Centers for Disease Control and Prevention)
Also in Spanish
- [Zika and Sexual Transmission](#) (Centers for Disease Control and Prevention)
Also in Spanish

Treatments and Therapies

Related Issues

- [CDC's Response to Zika: Enjoy Your Vacation Infographic](#) (Centers for Disease Control and Prevention) - PDF
Also in Spanish
- [Microcephaly and Other Birth Defects: Zika](#) (Centers for Disease Control and Prevention)
Also in Spanish
- [Plan for Travel: Before, During and After](#) (Centers for Disease Control and Prevention)
Also in Spanish
- [Zika and Guillain-Barré Syndrome](#) (Centers for Disease Control and Prevention)
Also in Spanish
- [Zika Travel Information](#) (Centers for Disease Control and Prevention)
Also in Spanish

Specifics

- [Dispelling Rumours Around Zika and Complications](#) (World Health Organization)

Videos and Tutorials

- [Zika Virus and Pregnancy](#)
 (American College of Obstetricians and Gynecologists, Centers for Disease Control and Prevention)

Statistics and Research

- [Areas with Zika](#) (Centers for Disease Control and Prevention)
- [Zika Virus](#)  (National Institute of Allergy and Infectious Diseases)
- [Zika Virus: Protecting Pregnant Women and Babies](#) (Centers for Disease Control and Prevention)
Also in Spanish

Clinical Trials

- [ClinicalTrials.gov: Zika Virus](#)  (National Institutes of Health)

Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- [Article: The role of Brazilian National Health Information Systems in assessing...](#)
- [Article: Detection of Zika Virus in April 2013 Patient Samples, Rio...](#)
- [Article: Therapeutic Approaches for Zika Virus Infection of the Nervous System.](#)
- [Zika Virus -- see more articles](#)

Children

- [Fact Sheet: What Parents Need to Know About Zika Virus](#) (Administration for Children and Families)

On this page

Basics

- [Summary](#)
- [Start Here](#)

Research

- No links available



Summary

Anatomy is the science that describes the structure and functions of the body and its parts. It includes descriptions and pictures of the body's organs and systems.

Start Here

- [Anatomy & Physiology](#)
- [Body Basics](#) (Nemours Foundation)
- [Introduction to the Human Body](#)
- [Visible Human Project](#)

Specific Conditions

- [Anatomy of the Heart](#)
- [Brain Basics](#)  
- [Classification & Structure of the Lungs](#)
- [Components of the Lungs](#)
- [Endocrine System \(Hormones\)](#)
Available in Spanish

[Home](#) → [Health Topics](#) → [Blood](#)

Blood

On this page

Basics

- [Summary](#)
- [Start Here](#)
- [Latest News](#)
- [Diagnosis/Symptoms](#)

Learn More

- [Related Issues](#)
- [Specific Conditions](#)

Research

- [Statistics and Research](#)
- [Clinical Trials](#)
- [Journal Articles](#)

Resources

- [Reference Desk](#)
- [Find an Expert](#)

Summary

Your blood is living tissue made up of liquid and solid components. It contains water, salts, and protein. Over half of your blood is made up of red blood cells, white blood cells, and platelets.

Red blood cells deliver oxygen from your lungs to your tissues. They also help fight infection and are part of your body's defense system. Bone marrow, the spongy material inside bones, constantly produces new red blood cells. Red blood cells live for about 120 days. Some white blood cells live less than 1 day.

Problems with your blood may include bleeding disorders. If you lose too much blood, you may need a transfusion.

Start Here

- [Blood \(For Parents\)](#) (Nemours Foundation)
Available in Spanish

Gas

Also called: Belch, Burp, Eructation, Flatulence, Flatus

On this page

Basics

- [Summary](#)
- [Start Here](#)
- [Treatments and Therapies](#)

Learn More

- [Living With](#)

See, Play and Learn

- [Health Check Tools](#)

Research

- [Clinical Trials](#)
- [Journal Articles](#)

Resources

- [Reference Desk](#)
- [Find an Expert](#)

For You

- [Children](#)
- [Patient Handouts](#)

Summary

Everyone has gas. Most people pass gas 13 to 21 times a day. Passing gas through the mouth is called belching or burping. Passing gas through the anus is called flatulence. Most of the time gas does not have an odor. The odor comes from bacteria in the large intestine that release small amounts of gases that contain sulfur.

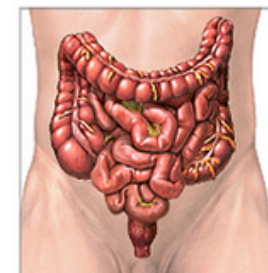
Gas in the digestive tract comes from two sources: air that you swallow and the breakdown of undigested food by bacteria in the large intestine. Certain foods may cause gas. Foods that produce gas in one person may not cause gas in another.

You can reduce the amount of gas you have by

- Drinking lots of water and non-fizzy drinks
- Eating more slowly so you swallow less air when you eat
- Avoiding milk products if you have lactose intolerance

Medicines can help reduce gas or the pain and bloating caused by gas. If your symptoms still bother you, see your health care provider.

NIH: National Institute of Diabetes and Digestive and Kidney Diseases



ADAM

Get Gas updates by email 

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MEDICAL ENCYCLOPEDIA

[Abdominal bloating](#)

[Belching](#)

[Bland diet](#)

[Gas - flatulence](#)

Related Health Topics

[Abdominal Pain](#)



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[Health Topics](#) [Drugs & Supplements](#) [Videos & Tools](#)

[Home](#) → [Health Topics](#) → [Asthma in Children](#)

Asthma in Children

Also called: Childhood asthma

On this page

Basics

- [Summary](#)
- [Start Here](#)
- [Latest News](#)
- [Diagnosis and Tests](#)
- [Prevention and Risk Factors](#)
- [Treatments and Therapies](#)

Learn More

- [Living With](#)
- [Related Issues](#)
- [Specifics](#)
- [Genetics](#)

See, Play and Learn

- [Images](#)
- [Health Check Tools](#)
- [Videos and Tutorials](#)
- [Games](#)

Research

- [Statistics and Research](#)
- [Clinical Trials](#)
- [Journal Articles](#)

Resources

- [Reference Desk](#)
- [Find an Expert](#)

For You

- [Children](#)
- [Teenagers](#)
- [Patient Handouts](#)

Summary

Asthma is a chronic disease that affects your airways. Your airways are tubes that carry air in and out of your lungs. If you have asthma, the inside walls of your airways become sore and swollen.

In the United States, about 20 million people have [asthma](#). Nearly 9 million of them are children. Children have smaller airways than adults, which makes asthma especially serious for them. Children with asthma may experience wheezing, coughing, chest tightness, and trouble breathing, especially in the morning or at night.

Many things can cause asthma, including

- Allergens - mold, pollen, animals
- Irritants - cigarette smoke, air pollution
- Weather - cold air, changes in weather

Become an Asthma Control Agent!

New to the program?
Register to become a new agent.

Join Now!

Don't want to register yet?
You can still play but you won't be able to save your progress.

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Log in to play!

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Password

Forgot your password?
[Click here.](#)

Enter

[Asthma - control drugs](#)

[Asthma - quick-relief drugs](#)

[Asthma - what to ask your doctor](#)

NLM Drug information

NLM DRUG INFORMATION RESOURCES

DRUG INFORMATION PORTAL

Home > Drug Information

Drug Information from the National Library of Medicine

- Drug Information Portal**
 The Portal provides users a comprehensive gateway to information on over 53,000 substances (over 200,000 unique searchable drug names and their synonyms) not only from NLM but also from other U.S. government agencies. It covers drugs from the time they are entered into clinical trials through their entry into the U.S. marketplace. The Drug Portal touches on all related information resources at NLM to provide for a comprehensive view. It is intended as a "middle ground" resource which includes information for the consumer, health professionals, and researchers.
- Drugs, Herbs and Supplements**
 Learn about your prescription drugs and over-the-counter medicines from MedlinePlus, the National Institutes of Health's Web site for patients and their families and friends. Read about side effects, dosage, special precautions, and more. Browse dietary supplements and herbal remedies to learn about their effectiveness, usual dosage, and drug interactions.
- Pillbox**
 Developed to aid in the identification of unknown solid dosage pharmaceuticals, Pillbox combines high-resolution images of tablets and capsules with appearance information (imprint, shape, color, etc.). It enables users to identify solid dosage forms based on physical criteria: imprint (characters or number printed on a medication), shape, color, size, and scoring. Users are shown thumbnail images of possible matches. These images are continually updated as the user enters additional information. Pillbox is designed for use by emergency physicians, first responders, other health care providers, Poison Control Center staff, and concerned citizens.
- DailyMed**
 DailyMed provides information about marketed drugs, including FDA labels (package inserts). It provides health information providers and the public with a standard, comprehensive, up-to-date, look-up and download resource of medication content and labeling as found in medication package inserts.
- Dietary Supplement Label Database (DSLDB)**
 The database links you to the information from the labels of over 30,000 dietary supplement products in the marketplace, including vitamins, minerals, herbs or other botanicals, amino acids, and other specialty supplements. It includes name, form, active and inactive ingredients, amount of active ingredient, manufacturer/distributor information, label claims, warnings, percentage of daily value, and additional label information. The database can be searched by product names, text terms found on product labels, specific dietary ingredients, and manufacturers.
- RxNorm**
 RxNorm provides normalized names for clinical drugs and links its names to many of the drug vocabularies commonly used in pharmacy management and drug interaction software, including those of First Databank, Micromedex, MediSpan, Gold Standard Alchemy, and Multum. By providing links between these vocabularies, RxNorm can mediate messages between systems not using the same software and vocabulary. RxNorm files are available through the NLM download server.



Drug Information Portal
Quick Access to Quality Drug Information

United States National Library of Medicine
National Institutes of Health

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Mobile Site

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DRUG INFORMATION PORTAL

Information available for 70,734 drugs.

☒ By Name ☐ By Category

Go

- Show examples.
- Show drug category names, results, and descriptions.
- Show top "By Name" searches (previous seven days).
- Show top "By Category" searches (previous seven days).
- Show top dispensed prescriptions in the US Market, 2010.
- Show common drug names list.
- Show generic name stems list.
- Show list of resources searched.

NIH Supplements Information






OFFICE OF DIETARY SUPPLEMENTS

U.S. Department of Health & Human Services National Institutes of Health

NIH National Institutes of Health
Office of Dietary Supplements

Strengthening Knowledge and Understanding of Dietary Supplements

Font Size - +

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Health Information News & Events For Researchers About ODS

DIETARY SUPPLEMENTS: WHAT YOU NEED TO KNOW

ODS experts are featured in this 2-minute video introduction to the Office of Dietary Supplements.

1 2 3 4 5


Dietary Supplement Fact Sheets

The Office of Dietary Supplements (ODS) fact sheets give a current overview of individual vitamins, minerals and other dietary supplements. ODS has fact sheets in two versions—Health Professional and Consumer. Both versions provide the same types of information but vary in the level of detail. Consumer versions are also available in Spanish. [more](#)

General Information


- > Dictionary
- > Background Information
- > Botanical Dietary Supplements
- > Full List of Fact Sheets
- > Frequently Asked Questions
- > ODS Videos
- > Información en español [more](#)

Featured Dietary Supplement Fact Sheets



Omega-3 Fatty Acids

Omega-3s are found in foods such as fatty fish and shellfish.



Choline

Many foods contain choline, including mushrooms.

Health Information



- > Frequently Asked Questions (FAQ)
- > Dietary Supplements: What You Need to Know
- > Dictionary
- > Información en español [more](#)





News & Events

HEADLINES

- > **NEW** Dietary Supplement Information Page for Health Professionals [more](#)

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Health

All Health Topics from A-Z

Research-based info from acupuncture to zinc.

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Information on seeking treatment.

Information for Health Care Providers

Evidence-based medicine, continuing education, clinical practice guidelines, and more.

Featured Health Topics

Seasonal Allergies (Allergic Rhinitis) (March 2017)

Complementary Health Practices for U.S. Military, Veterans, and Families (February 2017)

Parkinson's Disease (December 2016)

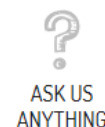
New Approach to Funding Clinical Trials

NCCIH released a series of new funding opportunity announcements designed for clinical trials focused on natural product and mind and body intervention studies.

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Videos & Tools

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Boost your health knowledge by playing interactive games.



Test Your Knowledge

Test Your Knowledge

See if you're up for the challenge. Exercise your knowledge.

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Opioids

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QUIZ

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 SHARES · 486

QUIZ

What's Your Relationship Style?

 SHARES · 9

QUIZ

Relationship Checkup! How Healthy is Your Relationship?

 SHARES · 23

QUIZ

Should You Make it Official?

 SHARES · 2

QUIZ

Which Pop Diva is Your Relationship Role Model?

 SHARES · 7

QUIZ

Which Celebrity Couple Are You?

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QUIZ

What Should Your Next...

FEATURED POLL

STAYTEEN POLL

When you break up with someone, do you unfollow them?

When you break up with someone, do you unfollow them?

Yes! I can't move on if I'm constantly seeing pictures of my ex. 15%

No way—I want to know what they're up to! 16%

It depends on the situation. 69%

Total votes: 1795

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Contents ▾ For researchers What's new Featured review ▾ Understanding clinical effectiveness ▾ Blog

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Contents ▾ Behind Headlines ▾ What's New Featured review ▾ Understanding clinical effectiveness ▾ Blog

Home > Understanding research results



Understanding research results

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Things you need to know



How to read health news

What to know about screening

Why randomization is important

Know your chances



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How we can know if a treatment works

Smart health choices



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PubMed Health Blog...



Swedish health and social care assessment agency SBU joins PubMed Health. We are delighted to welcome the Swedish Council on Health Technology Assessment (SBU) to PubMed Health.

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- Clinical effectiveness research answers the question “What works?” in medical and health care
- Provides information for consumers and clinicians on prevention and treatment of diseases and conditions
- Specializes in reviews of clinical effectiveness research
- Easy-to-read summaries for consumers as well as full technical reports
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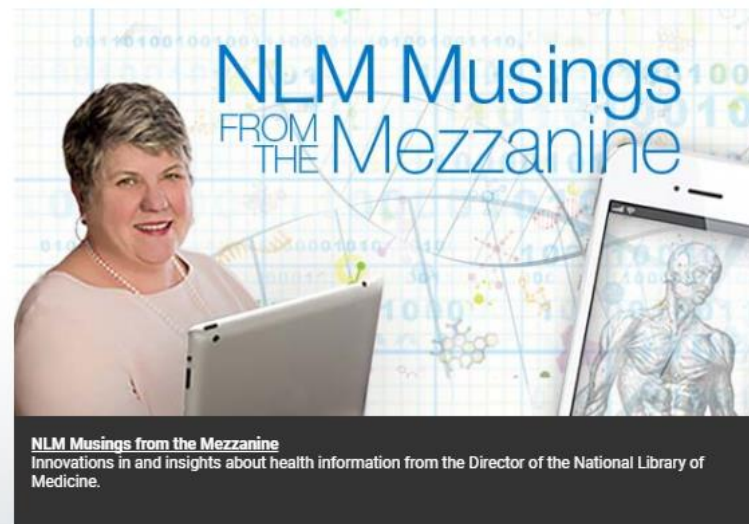
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[Mobile Gallery](#)

News, Events, Videos

- NLM Announces 2017-2018 Associate Fellows (04/27/17)
- RxNorm Completes the Prescribable Name Project (04/03/17)
- NLM Mourns the Loss of Faye G. Abdellah, former Deputy Surgeon General and NLM Board of Regents member, ex-officio (03/15/17)
- NLM to Hold First Annual Michael E. DeBakey Lecture in the History of Medicine on Tuesday, March 21 (03/14/17)



Technical Bulletin



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Musings from the Mezzanine



NLM in Focus Newsletter



Databases & APIs

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Autism Awareness

Autistic adults bring many talents to America's workforce. Learn more about autism.

[Learn more »](#)

In the News



Mental Health

Mental health topics and the latest research.



Opioids

The facts about opioid misuse.



Vaccines

Staying current on your shots protects us all.



Zika Virus Infection

Information to help protect you from Zika when traveling.

[Home » Institutes at NIH](#)

INSTITUTES, CENTERS, AND OFFICES

Institutes at NIH

[List of NIH Institutes, Centers, and Offices](#)

[Directors of NIH Institutes and Centers](#)

[NIH Institute and Center Contact Information](#)

[NIH Office of the Director](#)

List of NIH Institutes, Centers, and Offices

NIH Offices

NIH Office of the Director (OD)

The Office of the Director is the central office at NIH for its 27 Institutes and Centers. The OD is responsible for setting policy for NIH and for planning, managing, and coordinating the programs and activities of all the NIH components. OD program offices include the Office of AIDS Research and the Office of Research on Women's Health, among others.

NIH Institutes

National Cancer Institute (NCI) — Est. 1937

NCI leads a national effort to eliminate the suffering and death due to cancer. Through basic and clinical biomedical research and training, NCI conducts and supports research that will lead to a future in which we can prevent cancer before it starts, identify cancers that do develop at the earliest stage, eliminate cancers through innovative treatment interventions, and biologically control those cancers that we cannot eliminate so they become manageable, chronic diseases.

National Eye Institute (NEI) — Est. 1968

The National Eye Institute's mission is to conduct and support research, training, health information dissemination, and other programs with respect to blinding eye diseases, visual disorders, mechanisms of visual function, preservation of sight, and the special health problems and requirements of the blind.

Quick Links

NCI	NEI	NHLBI
NHGRI	NIA	NIAAA
NIAID	NIAMS	NIBIB
NICHD	NIDCD	NIDCR
NIDDK	NIDA	NIEHS
NIGMS	NIMH	NIMHD
NINDS	NINR	NLM
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OD		

[NIH home page](#)

NIH for Kids and Teens


National Eye Institute (NEI)
Research Today... Vision Tomorrow

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[Home](#) > [NEI for Kids](#)




All About Vision

- [About the Eye](#)
- [Ask a Scientist Video Series](#)
- [Glossary](#)
- [The Visual System](#)
- [Your Eyes' Natural Defenses](#)

Eye Health and Safety

- [First Aid Tips](#)
- [Healthy Vision Tips](#)
- [Protective Eyewear](#)
- [Sports and Your Eyes](#)


NEI for Kids



Most people rely on their eyes to see and make sense of the world around them. If you're reading this, your eyes are hard at work. You use your eyes for countless other things, too, like doing homework, playing sports, looking for that favorite shirt, or watching out for the neighborhood's angry dog. That's why it's important to take care of your eyes. Here you can learn about your eyes, how they work, and how to keep them healthy. Plus, you'll discover lots of fun eye facts.

Ask a Scientist

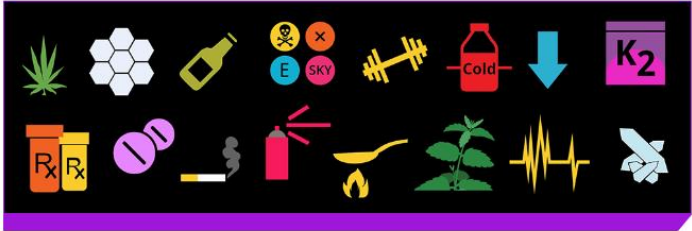
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National Institute on Drug Abuse for Teens
Advancing Addiction Science

[Teens](#) | [Teachers](#) | [Parents](#) | [Drugs & Health Blog](#) | [NDAFW](#)


Drug Facts

Get the latest on how drugs affect the brain and body. Featuring videos, games, blog posts and more!




Drugs & Health Blog


[See All Blog Items >](#)




Say What? "Epigenetics"




Could Snake Venom Help with the Opioid Problem?




"Addiction itself is not a crime, it's a disease."



Videos



Games



National Drug & Alcohol Facts Week



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Grants & Funding

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[Research in NIH Labs & Clinics](#)

[Training Opportunities](#)

[Library Resources](#)

[Research Resources](#)

[Clinical Research Resources](#)

[Safety, Regulation & Guidance](#)

[Science Education](#)

[Medical Research Initiatives](#)

[Precision Medicine Initiative](#)

[Environmental influences on Child Health Outcomes \(ECHO\) Program](#)

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Science Education

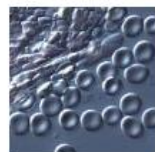
On this page

- [Resources for Students](#)
- [Resources for Educators](#)

Resources for Students



[NIAMS Kids Pages](#)



[Microscope Imaging Station](#)



[Test Your Science IQ!: Cells](#)



[NINDS Brain Resources](#)

From the NIH Director



Francis Collins, M.D., Ph.D., offers a message to high school graduates.

This video was requested by a motivated graduating senior at a high school in Ontario, but it speaks to students everywhere. May 19, 2011.

Featured Site



[NIAMS Kids Pages](#)

NIH Education Resources

NIH National Heart, Lung, and Blood Institute

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Home » Health Information for the Public » Educational Campaigns & Programs » We Can!® Español

We Can!
Ways to Enhance Children's Activity & Nutrition

About We Can!
Get Started With We Can!
Healthy Weight Basics
Eat Right
Get Active
Reduce Screen Time
In Your Community
Develop Your Program
For Health Professionals
Tools and Resources
News and Events

eat play grow™
Creative Activities for a Healthy Start

EatPlayGrow™
We Can! and the CMOM launch a health education curriculum for children ages 2-5 and their parents.

We Can! and Let's Move!
We Can! worked with the former First Lady's initiative to reach faith-based and community leaders.

Family Recipe Cards
Add tasty, quick, and good-for-you recipes to your collection.

Eat Right
From cooking to food shopping, get tips for choosing smart foods for your family. [Learn more »](#)

Get Active
Learn how to make family time active to maintain a healthy weight. [Learn more »](#)

Reduce Screen Time
Step away from the screen! Find out how to limit computer and TV time. [Learn more »](#)

Choosing Foods for Your Family
Make an Activity Plan
Tips to Reduce Screen Time

NIH National Institute of Dental and Craniofacial Research

A-Z Index | Staff Directory | Español

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NIDCR Home Oral Health Clinical Trials Research Grants & Funding Careers & Training

Educational Resources

NIDCR > Educational Resources

For Teachers

- Women in Dental Research: Video
- Open Wide and Trek Inside: Curriculum Supplement

For Health Care Providers

- Oral Complications of Cancer Treatment: Educational Materials
- Developmental Disabilities and Oral Health: Educational Materials
- Developmental Disabilities and Oral Health: Continuing Education Activity

For Patients and the Public

- Order Publications
- Diseases and Conditions
- Children's Oral Health
- Older Adults
- Special Needs
- Spanish

For Dental Public Health Professionals

- Healthy People 2020: Oral Health
- Healthy People 2010 Oral Health Toolkit

Featured Resource

Open Wide Trek Inside
NIH Curriculum Supplement Series Grades 1-2

Use this free NIDCR Curriculum Supplement for Elementary School Grades 1-2.

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[Home](#) → [MedlinePlus Guide to Healthy Web Surfing](#)

MedlinePlus Guide to Healthy Web Surfing



What should you look for when evaluating the quality of health information on Web sites? Here are some suggestions based on our experience.

Consider the source -- Use recognized authorities

Know who is responsible for the content.

- Look for an "about us" page. Check to see who runs the site: is it a branch of the Federal Government, a non-profit institution, a professional organization, a health system, a commercial organization or an individual.
- There is a big difference between a site that says, "I developed this site after my heart attack" and one that says, "This page on heart attack was developed by health professionals at the American Heart Association."
- Web sites should have a way to contact the organization or webmaster. If the site provides no contact information, or if you can't easily find out who runs the site, use caution.

Focus on quality--All Web sites are not created equal

Does the site have an editorial board? Is the information reviewed before it is posted?

- This information is often on the "about us" page, or it may be under the organization's mission statement, or part of the annual report.
- See if the board members are experts in the subject of the site. For example, a site on osteoporosis whose medical advisory board is composed of attorneys and accountants is not medically authoritative.
- Look for a description of the process of selecting or approving information on the site. It is usually in the "about us" section and may be called "editorial policy" or "selection policy" or "review policy."
- Sometimes the site will have information "about our writers" or "about our authors" instead of an editorial policy. Review this section to find out who has written the information.

[Guide to Healthy Web Surfing](#)

Be a cyberskeptic--Quackery abounds on the Web

Does the site make health claims that seem too good to be true? Does the information use deliberately obscure, "scientific" sounding language?

Evaluating Health Information

HEALTH TOPIC PAGE



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[Health Topics](#) [Drugs & Supplements](#) [Videos & Tools](#)

[Español](#)

Home → [Health Topics](#) → Evaluating Health Information

Evaluating Health Information

On this page

Basics

- Summary
- Start Here

Learn More

- Related Issues
- Specifics

See, Play and Learn

- Videos and Tutorials

Research

- Statistics and Research
- Journal Articles

Resources

- Find an Expert

For You

- Patient Handouts

Summary

Millions of consumers get health information from magazines, TV or the Internet. Some of the information is reliable and up to date; some is not. How can you tell the good from the bad?

First, consider the source. If you use the Web, look for an "about us" page. Check to see who runs the site: Is it a branch of the government, a university, a health organization, a hospital or a business? Focus on quality. Does the site have an editorial board? Is the information reviewed before it is posted? Be skeptical. Things that sound too good to be true often are. You want current, unbiased information based on [research](#).

NIH: National Library of Medicine

Start Here

- [Evaluating Internet Health Information: A Tutorial from the National Library of Medicine](#) (National Library of Medicine)
- [Find Quality Resources: How Do I Know if I Can Trust the Information I Find Online?](#) (Office of the National Coordinator for Health Information Technology)



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MEDICAL ENCYCLOPEDIA

Online health information - what can you trust?

Related Health Topics

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Home → [Videos and Tools](#) → Evaluating Internet Health Information: A Tutorial from the National Library of Medicine

Evaluating Internet Health Information: A Tutorial from the National Library of Medicine



- This tutorial teaches you how to evaluate the health information that you find on the Web. It is about 16 minutes long.
- You need the Flash plug-in, version 8 or above, to view it. If you do not have Flash, you will be prompted to obtain a free download of the software before you start.
- The tutorial runs automatically, but you can also use the navigation bar at the bottom of the screen to go forward, backward, pause, or start over.



Learn how you can download a version of the tutorial for use when no Internet connection is available. Read the [transcript](#) of the tutorial.

Environmental Health

Environmental Health

On this page

Basics

- [Summary](#)
- [Start Here](#)
- [Latest News](#)

Learn More

- [Related Issues](#)
- [Specifics](#)

See, Play and Learn

- No links available

Research

- [Statistics and Research](#)
- [Clinical Trials](#)
- [Journal Articles](#)

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- [Find an Expert](#)

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- [Children](#)
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Related Health Topics

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Summary

Our environment affects our health. If parts of the environment, like the [air](#), [water](#), or soil become polluted, it can lead to health problems. For example, asthma pollutants and chemicals in the air or in the [home](#) can trigger asthma attacks.

Some environmental risks are a part of the natural world, like [radon](#) in the soil. Others are the result of human activities, like [lead poisoning](#) from paint, or exposure to [asbestos](#) or [mercury](#) from mining or industrial use.

NIH: National Institute of Environmental Health Sciences

Start Here

- [Environmental Health Topics from A to Z](#)  (National Institute of Environmental Health Sciences)
Also in [Spanish](#)
- [Tox Town](#)  (National Library of Medicine)
Also in [Spanish](#)

U.S. Department of Health & Human Services www.hhs.gov

Environmental Health & Toxicology

SPECIALIZED INFORMATION SERVICES

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Quick Tours



ToxTutor

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TOXNET - Collection of databases on hazardous chemicals, toxic releases, and environmental health

In the Spotlight

- Which Resource Should I Use?
- TOXNET Class Schedule and Workbook
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J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	#

About TEHIP

- Toxicology & Environmental Health Information Program
- Which Resource Should I Use?
- Contact Us: Provide Feedback

For Information About...



Especially for Students and Educators
Educational materials on toxicology, chemistry, and environmental health



Learn to Use TOXNET
TOXNET training manual and schedule of TOXNET training classes.



Training Videos
Short video introductions to HSDB, LactMed, and TOXMAP

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National Institutes of Health, Health & Human Services

Last updated: 18 July 2017
First published: 15 March 2010
NLM Customer Support

- Wide range of environmental and toxicology topics
- Health effects
- Information for:
 - variety of professionals
 - the public
 - teachers and students
- Tutorials and guides provided

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U.S. Department of Health & Human Services




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[Especially For...](#)
[Search TOXNET® Databases](#)
[Other Professional Resources](#)
[Resources for the Public](#)
[Enviro-Health Links](#)
[Guides & Tutorials](#)

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[Database Descriptions](#)
[Which Resource Should I Use?](#)
[SIS News](#)
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[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#)
[J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#)
[S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#) <#>

Especially for students and educators

Starting Points

Environmental Health Student Portal

Educational resources for middle school students and teachers on how the environment effects health

Tox Town

Interactive guide to toxic substances and environmental health issues in everyday places

ToxMystery

Provides a fun experience while teaching about household chemical hazards. For children from 7-11 years old

Toxicology Tutorials

Basic toxicology principles written at the introductory college student level

Household Products Database

Safety and health information for products used in and around the home

TOXMAP

Geographic representation of TRI data with links to other TOXNET resources

- [TOXMAP: Resources for Teachers](#)



National Library of Medicine

Environmental Health Student Portal

Connecting Middle School Students to Environmental Health Information

Home

Air Pollution

Chemicals

Climate Change

Water Pollution

Videos

Games

Experiments

For Teachers



Go



Print this Page

What is Environmental Health ?

Environmental Health is the interrelationship between human health and the environment, either natural or manmade.

[Learn More](#)



Interested in a trailer of our animations about characteristics, uses, and health effects of hazardous chemicals?

Please, click here to preview.



Air Pollution



Chemicals



Climate Change



Water Pollution



City

View



Farm

View



Port

View



US Southwest

View



Town

View

What's New

- May is Asthma and Allergy Awareness Month
 - Visit the Indoor Air, and Homes location
- Click on Drinking Water in Drinking Water Week, May
- Show how you care about Quality Awareness Week,

Unit 1: Water Quality

Unit 2: Air Quality

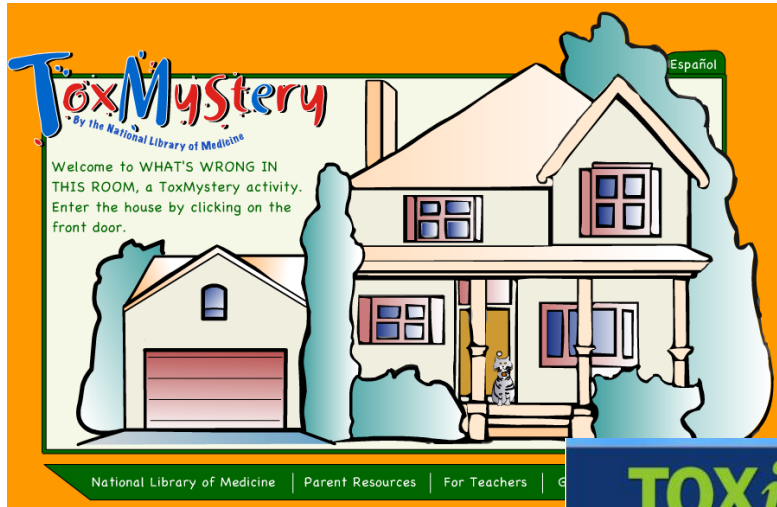
Unit 3: Chemicals in Your Home

Unit 4: Food Safety

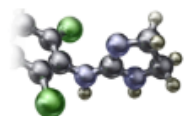
Unit 5: Runoff, Impervious Surfaces, and Smart Development

Unit 6: The Great Debate: Bottled Water vs. Tap Water in Our Schools

Educational Games



[TOXNET Home](#) > [ChemIDplus Lite](#)



ChemIDplus

A TOXNET DATABASE

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BROWSE ChemIDplus

ADVANCED SEARCH

(automatic) ▼ (automatic) ▼

Search

Search for multiple terms by using this format: 50-00-0|50-01-1|50-02-2

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Resources

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Contact Us

Email: tehip@tehl.nlm.nih.gov
Telephone: (301) 496-1131
Fax: (301) 480-3537

About ChemIDplus



What is ChemIDplus?

Chemical database is a dictionary of over 400,000 chemicals (names, synonyms, and structures). ChemIDplus includes links to NLM and other databases and resources, including links to federal, state and international agencies. [ChemIDplus Lite](#) is designed for simple searching on name or registry. [ChemIDplus Advanced](#) helps users draw their own structures and perform similarity and substructure searches.

Updates: ChemIDplus records are updated daily.

Did you know



How do I lease/license the TOXNET databases?

The following TOXNET databases are available for lease: ChemIDplus, DIRLINE, CCRIS, GENE-TOX, HSDB, and TOXLINE.

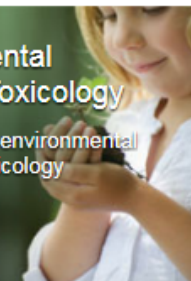
For further information visit [Leasing Data](#) from the National Library of Medicine.

[More FAQs](#)

Environmental Health & Toxicology

Resources on environmental health and toxicology

[Visit Site](#)



[ChemIDplus](#)

Genomics/Genetics

Precision Medicine Initiative

Mission statement:

To enable a new era of medicine through research, technology, and policies that empower patients, researchers, and providers to work together toward development of individualized care.



[PMI announcement](#)

Genomic Health/Science Literacy

- Lack biology basics
- Lack mathematical concepts
- Low health literacy
- Biomedical professions
- Medical treatment
- Understand basics of health conditions





Genetics, Education, Discovery

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Home

Topics

Labs &
Experiments

Teacher
Resources

Careers in
Genetics

Highlights

search...

GO



Cell Biology

The study of the cell, including mitosis and meiosis



Genetic Conditions

Conditions caused by gene variations or mutations



DNA Forensics

The application of genetic testing for legal purposes



DNA, Genes, Chromosomes

The building blocks of inheritance



Evolution

Processes by which organisms are changed over time



Top Issues In Genetics

Select genetic topics of popular interest



Heredity/Inheritance Patterns

The genetic transmission of traits



Biostatistics

The use of mathematics to investigate life science related problems



Epigenetics/Inheritance and the Environment

The genome's dynamic response to the environment



Biotechnology

Biological techniques used to enhance products



[GeneEd home page](#)

Education

Educational materials about genetics and genomics



Smithsonian NHGRI Genome Exhibition

A genomics exhibition from the Smithsonian and NHGRI



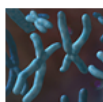
Genomic Careers

Information on careers in genomics and genetics



Online Genetic Education Resources

A list of online resources for learning about genomics and genetics



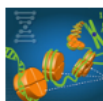
About The Human Genome Project

Information on the history, progress and impact of the HGP



National DNA Day

A unique day when everyone can learn more about genomics and genetics



Fact Sheets

Clearly written information on the institute, genetic research and genetic concepts



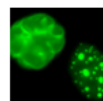
Talking Glossary of Genetic Terms

Terms and definitions used in genetic research with multimedia



Genetic Education Resources for Teachers

Teaching plans to present the science of genetics and genomics



Online Education Kit

A web-based resource outlining the major history and developments of genomics

Highlights

Genome Unlocking Life's Code goes international!



Genome: Unlocking Life's Code, the traveling genomics science exhibit created by NHGRI and the Smithsonian National Museum of Natural History, needs a passport ... because it's going international for the first time! The exhibit will move on to Science North in Sudbury, Ontario, Canada. From September 30, 2017 - January 1, 2018, check out the hands-on, interactive activities sure to get you excited about the world of genome science. The exhibit relates the exciting history genomic research, showcases its bright future, and highlights the increasing relevance of genomics in our lives today

NHGRI hosts vision meeting to advance genomic literacy



Genomic advances are rapidly leading to exciting opportunities to use genomic information in medical care and aspects of everyday life. But there is a widening gap between the pace of genomic advances and genomic literacy. To address the gap, NHGRI recently hosted a meeting that engaged people from three diverse fields: K-16 students, the general public and healthcare providers. The goal was to discuss the possible launching of a proposed Genomic Literacy, Education, and Engagement (GLEE) Initiative.

Harry Potter and the Genetics of Wizarding



For **NHGRI's National DNA Day** inaugural speaker series, Eric P. Spana, Ph.D. from Duke University presented *Harry Potter and the Genetics of Wizarding*. The event took place on the NIH campus in Building 35A (Porter Building), Room 640. It is now available on NHGRI's YouTube channel, GenomeTV. Dr. Spana is an award-winning instructor in biology who helps students place new information in context with ideas they already find familiar, like Harry Potter, Star Wars and The Avenger.

See Also

Education and Community Involvement Branch

GenomeTV

Genome Advance of the Month

Education Archive

On Other Sites:

Genome: Unlocking Life's Code
NHGRI Smithsonian Exhibition

GenomeTV
NHGRI's YouTube Channel

Teach Genetics | Learn Genetics
At the Genetic Science Learning Center

Genetics Education & Outreach Network
At The American Society of Human Genetics

En Español:

Recursos del Instituto Nacio
Genoma Humano y los Instit
(NIH) en Español



Celebrating Genomics Through Awareness

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Celebrate With NHGRI

Get Activity Ideas

About DNA Day



National DNA Day is a unique day when students, teachers and the public can learn more about genetics and genomics! The day commemorates the completion of the Human Genome Project in April 2003, and the discovery of DNA's double helix in 1953.
Subscribe to our newsletter!



The National DNA Day Network has events all over the country. Find an event near you to celebrate DNA Day.



Stay tuned for all of the 2018 DNA Day events coming your way.



National Human Genome Research Institute education page



Your Guide to Understanding
Genetic Conditions

[Health Conditions](#)[Genes](#)[Chromosomes & mtDNA](#)[Resources](#)[Help Me Understand Genetics](#)

Genetics Home Reference provides consumer-friendly information about the effects of genetic variation on human health.



Health Conditions

More than 1,100 health conditions, diseases, and syndromes

[Browse A-Z](#)

New & Updated Pages

New Pages

[17q12 duplication](#)[ACAD9 deficiency](#)[primary coenzyme Q10 deficiency](#)[More New Pages...](#)

Updated Pages

[5-alpha reductase deficiency](#)[Erdheim-Chester disease](#)[L1 syndrome](#)[Usher syndrome](#)[More Updated Pages...](#)

Bulletins



Genes

More than 1,300 genes and the health effects of genetic changes

[Browse A-Z](#)

- Health conditions
- Genes
- Chromosomes and DNA
- Resources
- Genetic handbook

[Genetics Home Reference](#)

NLM Traveling Exhibits



NLM's Harry Potter's World

<p>Lesson Plans</p> <ul style="list-style-type: none"> Boggart and Fear in Harry Potter Genetic Traits in Harry Potter <p>Higher Education</p> <p>Online Activities</p> <p>Other Resources</p>	<h3>Genetic Traits in Harry Potter</h3> <p>grade level: 5–8 subject: science and technology</p> <p>PRINT PAGE</p> <p>time needed two to four 40-minute class periods</p> <p>Four 40-minute class periods for younger students with little knowledge of genetics (two periods for Pre-lesson Activity and Class 1, and the other two periods for Class 2)</p> <p>Two 40-minute class periods for older students with strong knowledge of genetics (one period for Pre-lesson Activity and Class 1 and the second period for Class 2)</p> <p>description The purpose of this lesson is to give students an introductory understanding of genetic inheritance. Students review and become familiar with basic genetic concepts and terms, such as DNA, chromosome, gene, allele, homozygous, heterozygous, recessive and dominant genes, genotype, phenotype, complex traits, Mendelian inheritance, and Punnett square. Students apply these to identify and examine several examples of simple and complex genetic traits in several characters in <i>Harry Potter</i>. Students also examine inheritance patterns of magical ability in <i>Harry Potter</i>, and use the concepts they have learned to identify possible genotypes of the magical abilities demonstrated by several characters in the series.</p> <p>Note: The models of genetic inheritance presented in this lesson plan have been simplified so that students learn basic terms and concepts about genes and genetically inherited physical characteristics among people. In reality, many of the traits used as examples—and most traits, in general—tell a far more complicated story about inheritance than discussed in this lesson plan. For furthering students' learning and exploration of the complex genetic studies, please see Extension Activity 2 below.</p> <hr/> <p>OPEN ALL</p> <ul style="list-style-type: none"> ▶ learning outcomes ▶ background information ▶ vocabulary ▶ materials ▶ pre-lesson activity ▶ class 1 procedures ▶ class 2 procedures
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NCBI Bookshelf

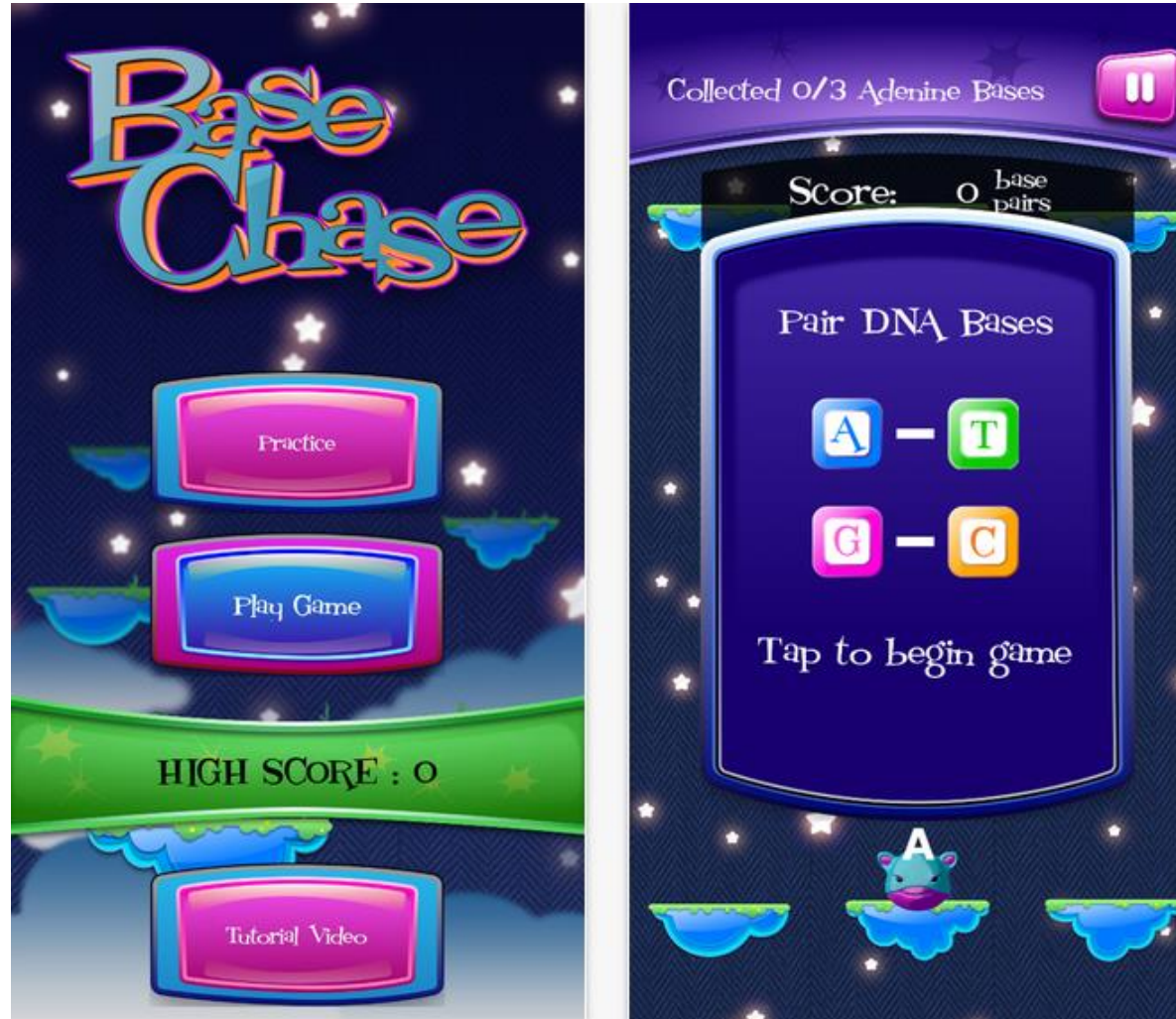
Genes and Diseases

- Organized by the parts of the body that genetic disorders affect
- Over 80 genetic disorder summaries
- Images and interesting facts
- PDF downloads of chapters
- Links to related research literature and pertinent websites

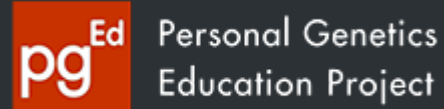


[Genes and Diseases from NCBI Bookshelf](#)

Base Chase



Literacy/Education Resources



Public Health Genomics



CENTER FOR
GENETICS AND
SOCIETY



discover. educate. advocate.



Interdisciplinary Resources

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EXHIBITION PROGRAM

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make history!
expand your horizons

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The Exhibition Program creates lively and informative exhibitions and educational resources that enhance awareness of and appreciation for the collections of the National Library of Medicine. Explore. Discover. Enjoy.

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Focus on Health Issues

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SURV & THE

AIDS, POLIT

"We condemn attem
'victims,' a term whi
we are only occasio
which implies passiv
dependence upon th
We are 'People With

EXPLORE TH

For All the People
A CENTURY OF CITIZEN ACTION
IN HEALTH CARE REFORM

Health care reform has been a contentiou
political issue in the United States for mor
than a hundred years.

—EXPLORE THE EXHIBITION—

EXPLORE MORE EXHIBITIONS MORE EDUCATIONAL RESOURCES

CONFRONTING VIOLENCE IMPROVING WOMEN'S LIVES

EXHIBITION PROGRAM

TEMPERANCE AND WOMEN'S RIGHTS
advocates called attention to family
violence and agitated for reform during
the mid-19th century. Despite their
efforts, society as a whole continued to
ignore domestic violence.

CONTINUE to GENERATIONS OF REFORMERS

SEXISM KILLS
STOP WIFE ABUSE

RAPISTS MUST BE STOPPED!!!

EXPLORE

HOME • EXHIBITION • EDUCATION • DIGITAL GALLERY • CREDITS

LEARN more

Who were some advocates for change?

FIND OUT +

SEE the digital gallery

BOOK the traveling exhibition

IVS. Battered Wives
HELP FOR THE SECRET VICTIM NEXT DOOR

FRANKLIN

1 "And there's the ..."

EVERY NECESSARY
CARE & ATTENTION
GEORGE WASHINGTON
& MEDICINE

Alongside the traditional demands of family life, and political and military leadership, George Washington focused considerable attention on the health and safety of his family, staff, slaves, and troops.

EXPLORE THE EXHIBITION

FIND EDUCATIONAL RESOURCES



BOOK THE TRAVELING EXHIBITION

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Search Exhibition Program

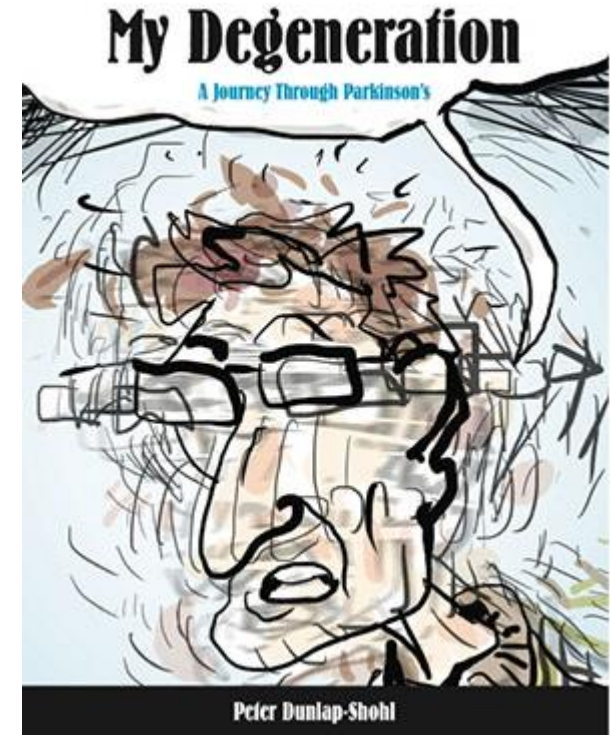
Comics / Graphic Novels



grap
hic
medi
cine



IMAGE COPYRIGHT THOM FERRIER 2011



NNLM Resource Picks

March 2017 session recording

How to make the most
of your National Library of Medicine
traveling banner exhibition!



[Recording of March 2017 NNLM Resource Picks](#)

NLM History of Medicine Division

History of Medicine

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NLM's History of Medicine Division collects, preserves, makes available, and interprets for diverse audiences one of the world's richest collections of historical material related to human health and disease.

In NLM Digital Collections
World War I, 1914-1918: Documenting American engagement in the War to End All Wars. [Learn more.](#)

Making News

Coming Soon, a New Illustrated History of the National Library of Medicine

"Whither Sir William?" in *JAMA*, thoughts on Sir William Osler's legacy

NLM Lends Historical Images & Related Items to National Building Museum Exhibition

Circulating Now Follow our blog for special features about our collections and exhibitions, and get news about recent acquisitions, new finding aids, special projects, and events.

1

2

3

4

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Millions of references from antiquity to the mid-20th century
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Over 70,000 images
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More than 200 collections worldwide
- Finding Aids Consortium
Over 8,000 from 48 institutions
- More NLM Databases, Resources & APIs

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INFORMATION FOR

- Michael E. DeBakey Fellowship Applicants
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- Grantseekers
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- Image & Film Researchers
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Careers



Health Topics Drugs & Supplements

Home → Health Topics → Health Occupations

Health Occupations

Also called: Health careers, Health professions

On this page

Basics

- Summary
- Start Here
- Latest News
- Learn More
- Specifics

Research

- Statistics and Research
- Journal Articles
- Resources
- Find an Expert

Summary

Every day, around the clock, people who work in health occupations care for people, from newborns to the very ill. In fact, there are more health jobs in the United States than in any other country. Many health jobs are in hospitals, dentists' offices, outpatient clinics and laboratories.

To work in a health occupation, you often must complete more than 4 years of college.

Bureau of Labor Statistics

Start Here

- Occupational Outlook Handbook: Health Occupations
Also in Spanish

Latest News

- Nurses Learn How to Get Patients to Say 'Yes' to Blood Thinners (08/17/2017, HealthDay)



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SIS Home > Environmental Health and Toxicology > Enviro-Health Links

Topics of Interest

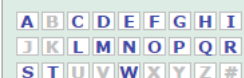
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Especially For...

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- Guides & Tutorials

More

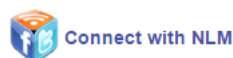
- About TEHIP
- Database Descriptions
- Which Resource Should I Use?
- SIS News
- Conference Exhibit Schedule

A to Z Index of Resources



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Enviro-Health Links - Education and Outreach in Toxicology and Environmental Health

- Academic Program Directories
- Continuing Education and Tutorials
- Educational Outreach
- K-12 Education
- General Science Resources
- Accreditation Boards
- Career Resources
- Professional Societies
- International Societies
- Disclaimer

Academic Program Directories

Graduate Programs in Toxicology

- Academic and Postdoctoral Programs
- Society of Toxicology

Programs in Environmental Science

- Association of Environmental Health and Safety
- Current Affiliates of the National Council on Environmental Health
- Environmental Internship Clearinghouse
- National Council for Science and the Environment
- National Environmental Health Science Education Program

Programs in Medical Toxicology

- Interested in Becoming a Medical Toxicologist
- American College of Medical Toxicology
- Medical Toxicology Education Service
- University of Virginia
- Texas Tech University Health Science Center
- Training Programs for Medical Toxicologists
- Compiled by the American College of Medical Toxicology
- Toxikon Medical Toxicology Fellowship

Programs in Occupational Medicine

- Post-Graduate Training Opportunities
- Association of Occupational and Environmental Health
- European Association of Schools of Occupational Health

^ Back to Top

Service



Genetics, Education, Discovery

Home

Topics

Labs & Experiments

Teacher Resources

Careers in Genetics

Highlights

search...

GO

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Print This Page
Email Us

HOME > CAREERS IN GENETICS



Careers in Genetics

The study of genetics and genomics is improving our understanding of the biology of health and disease, and that of our biological world in ways that was never before possible. These advancements have wide applications to biology, health, and society. Opportunity to use training in genetics and genomics exists in a range of fields, including in medicine, academic research, law, journalism, agriculture, commercial industries, and education to name a few.

Becoming a Scientist

Description: Detailed articles, video interviews with various scientists, and additional information resources for students curious about becoming a scientist

Source: Cold Spring Harbor Laboratory | URL: <http://library.cshl.edu/oralhistory/topic/scientific-experience/becoming-scientist/>

Careers in Human Genetics

Description: Information on careers in human genetics

Source: The American Society of Human Genetics | URL: <http://www.ashg.org/education/careers.shtml>

Genetic Counseling

Description: Genetic counselors are health professionals who help people faced with the possibility of a genetic disease to make informed decisions about their futures.

Source: Genome Research Limited and Wellcome Trust Sanger Institute | URL: <http://www.yourgenome.org/stories/genetic-counselling>

GeneticsCareers.org

Description: Explore real genetics career job postings on this site developed by The American Society of Human Genetics and the Genetics Society of America

Source: GeneticsCareers.org | URL: <http://geneticscareers.org>

Genomic Careers - Find Your Future

Description: Video interviews with genomic professionals, information on genomic careers, a tool for rating your favorite genomic careers, and an opportunity to test your knowledge of careers in this field

Source: National Human Genome Research Institute | URL: <http://www.genome.gov/GenomicCareers/index.cfm>


Genomics: Towards a Healthier You

Description: A webcast presenting information on why genetics is important to health, plus information on genetic counseling as a career. The singer and performer T-Boz shares her personal story about living with sickle cell anemia as one example of genetic health issues.

Source: National Human Genome Research Institute | URL: <https://www.youtube.com/watch?v=Q5ZrowNN7M0>

NLM Traveling Exhibits

CELEBRATING AMERICA'S WOMEN PHYSICIANS



Changing *the face of Medicine*

HOME
RESOURCES

Careers Lesson Plans Higher Education

Is a Medical Career for you?
Undergraduate Education
Medical School
Residency & Fellowships
Practicing Medicine

* CAREERS
Think you might be a doctor?
world? Explore

* IS A MEDICAL CAREER FOR YOU?

- What is a career in medicine like? Why do people choose this field? What is the experience in a medical environment? How expensive is this fascinating field.

* UNDERGRADUATE EDUCATION

- The first step to a promising career in medicine is to gain practical information on the types of courses to take in medical school, the broad range of medical careers and the education required.

* MEDICAL SCHOOL

- Once you are in medical school, you will be launched into a world of elective opportunities in the fourth year, medical specialty training programs, and medically focused financial aid.

* RESIDENCY AND FELLOWSHIPS

- Once you complete medical school, you need to enter a residency program depending on the medical specialty you choose. After additional medical training if you want to become a specialist, residencies and learn about fellowship opportunities, training resources and organizations available to help you along the way.

* PRACTICING MEDICINE

NATIVE PEOPLES' CONCEPTS OF HEALTH AND ILLNESS



EXHIBITION INTERVIEWS TIMELINE RESOURCES

CAREERS IN MEDICINE AND SCIENCES

- > High School
- > Higher Education
- > Post-Graduate / Medical Schools

LESSON PLANS & ADDITIONAL RESOURCES

ONLINE ACTIVITIES

SUGGESTED READINGS

HEALTH HEADLINES

High School

American Indian Science and Engineering Programs

<http://www.aises.org/what/programs/prec>

AISES offers a variety of programs for high school students and international science and engineering students. The technology-based initiatives.

ASPIRINGDOCS.ORG® by the American Medical Colleges (AAMC)

<http://www.aspiringdocs.org>

ASPIRINGDOCS.ORG® is supported by the American Medical Association. The Resources section will help high school students and international science and engineering students navigate through the process of becoming a doctor.

Association of American Indian Physicians National Native American Yearbook

<http://aaip.site-ym.com/?page=NNAYI>

This annual program takes place in Washington, D.C.


PHYSICIAN ASSISTANTS
Collaboration and Care

EXHIBITION PROGRAM

Exhibition: Part of a Team

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Introduction
Part of a Team
Diversity Makes a Difference
Collaboration with New Partners
Respond to Community Needs
Care Around the World



A PA student (right) from George Washington University observes a doctor performing an eye exam during a rotation, Washington, DC, ca. 1970s
Courtesy National Library of Medicine

PREVIOUS | NEXT (1/8)

PAs are educated and trained to collaborate with other health professionals. During their coursework and clinical training, PAs learn from and work with physicians, other PAs, nurses, and additional health care professionals in a variety of settings.

American physician Eugene Stead created the profession's partner-based foundation. He modeled it after the collaborative relationship between Dr. Amos Johnson and his assistant, Buddy Treadwell, who had worked together in rural North Carolina since the 1940s. Dr. Stead opened the first academic PA program at Duke University in 1965, which educated students to


Peer Tutor Project

Vital Information for a Virtual Age!

iVIVA!


A PEER TUTOR PROJECT

September 12, 2015



OUR MISSION

Biblioteca Las Américas	To empower high school students and assist them in serving their communities;
medlineplus.gov	
Implementation Guide	To improve the awareness and use of quality health information resources in communities; and
History	To create student-centered programs for community health outreach.
Activities	We offer free support for those starting new peer tutoring programs that seek to partner teachers and high school students and wish to learn from the experiences of others.
Personnel	
South Texas ISD	
Publications	
Awards	



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AWARDS

- 2003 Texas Library Association Project of the Year
- 2003 HOSA Student community awareness project
- 2006 National School Library Media Program of the Year

FUNDED

This project has been funded in whole or in part with Federal funds from the National Library of Medicine, National Institutes of Health, under Contract No. HHSN-276-2011-00007-C with the Houston Academy of Medicine-Texas Medical Center Library.

Download our recently updated [Implementation Guide!](#)

**Explore
HEALTH
Careers.org**

PNR Rendezvous August, 2016 session recording



[PNR Rendezvous K-12 session](#)

NLM K-12 Twitter & Newsletter



NLM K12 Sci Edu
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Health and science education resources for teachers. From the National Library of Medicine. RT are not endorsements. NLM Privacy Policy: [1.usa.gov/yyhu2Q](https://www.nlm.nih.gov/privacy)

National Library of Medicine
[sis.nlm.nih.gov/outreach/k12.h...](https://www.nlm.nih.gov/outreach/k12.html)
Joined September 2010

14 Photos and videos

Tweets 1,415 Following 149 Followers 141 Likes 67

Tweets Tweets & replies Photos & videos

NLM K12 Sci Edu @NLM_K12 · Jan 28
Attn Teachers! A witty animation to engage students about the topic Mercury. #mercury #science go.usa.gov/cEbDA

NLM K12 Sci Edu @NLM_K12 · Jan 23
K12 teachers here is an animation that explains #lead exposure "Silent but Deadly": go.usa.gov/cUmmQ #Flint

NLM K12 Sci Edu @NLM_K12 · Jan 23
Want to make science relatable to students? This lesson plan on bottle water vs tap water in schools can help! go.usa.gov/3xQ9Q

NLM K12 Sci Edu @NLM_K12 · Jan 22
Teaching about runoff, impervious surfaces and smart development? Here's a lesson plan on it go.usa.gov/3xQ83

NLM K12 Sci Edu @NLM_K12 · Jan 22
Keep your students safe! Share this information on carbon monoxide. go.usa.gov/cPY4d #carbonmonoxide #snow

NLM K12 Sci Edu @NLM_K12 · Jan 22
How can #Methane affect my health? Los Angeles residents find out

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#FlashbackFriday
Nemanja Vidic
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#ChallengeAcceptedOnCC
Hymn For The Weekend
Murray
Jacques Rivette

NIH U.S. National Library of Medicine

Education Connection

Working with teachers and scientific experts to provide **FREE** reliable resources for the classroom

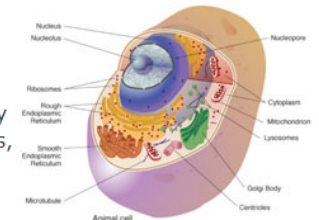


This month we are celebrating genetics by providing you with great tools to use with your students in the classroom. Each week we will provide current events, fun facts, lesson plans, games and resources to help motivate your students.

Current Events for the Classroom

Spotlight on Cell Biology

New scientific discoveries are made every day, increasing our understanding of even the most basic concepts. The phases a cell goes through during its lifetime is well documented, but until recently scientists could only determine the age of a cell after it died. Scientist at NYU made an incredible breakthrough using a state-of-the art fluorescent microscope which allows them to see changes in the nucleus of living cells. Researchers observed small flickers of light emitted from the nuclear envelope. They discovered that young cells give off quick strong flickers, while old cells have fewer and weaker flickers.



So, what's all the fuss about??? With this new insight, researchers may better understand human biology. It is hopeful, that these new discoveries will help them to gain knowledge about healthy and diseased cells. Researchers believe that structural and functional errors in the nuclear envelope may be responsible for developmental and inherited disorders.

Teacher Talk

Current events are a great way to introduce the "why we care about this topic" to students. As you begin to cover topics such as the phases of the cell cycle, recent news articles like this one can be used to get students thinking about why the science is important and how it may benefit them. You can link to the full proceedings from the [National Academy of Sciences of the United States of America](https://www.nationalacademies.org) to learn more about this new discovery.

Looking for more resources about cell biology... take a look at these resources from the National Library of Medicine and the National Human Genome Research Institute:
GeneEd – Cell Biology

NNLM PNR

- Help your students/ parents/school staff be informed about health
- Provide health resources and increase health awareness to parents and the wider community
- Connect with the community through collaboration and information
- Look to NNLM PNR for great resources, classes, webinars, funding and other opportunities

NNLM PNR

<https://nnlm.gov/pnr>

NIH NLM>NNLM
National Network of Libraries of Medicine

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PNR HOME About PNR Members Funding Professional Development

PACIFIC NORTHWEST REGION

Pacific Northwest Region

The University of Washington Health Sciences Library serves as the regional Network Office for network member organizations throughout the National Network of Libraries of Medicine, Pacific Northwest Region (NNLM PNR) including the states of Alaska, Idaho, Montana, Oregon and Washington

Learn more about PNR

Pacific Northwest Region

BECAUSE LIBRARIES ARE PARTNERS IN A HEALTHY COMMUNITY

BECAUSE RARE DISEASES ARE MORE COMMON THAN YOU THINK

BECAUSE QUALITY INFORMATION HELPS YOU MAKE BETTER HEALTH DECISIONS

BECAUSE LIBRARIES CAN HELP YOU KEEP YOUR FAMILY HEALTHY

New Health Literacy Toolkit from Libraries Transform
BECAUSE LIBRARIES ARE PARTNERS IN A HEALTHY COMMUNITY

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Best Practice in Decision-Making: Educational Training Program on Evidence-based Management

Thank You!



Carolyn Martin, MLS, AHIP
Consumer Health Coordinator
National Network of Libraries of Medicine
Pacific Northwest Region (NNLM PNR)
martinc4@uw.edu